PIC Design Details

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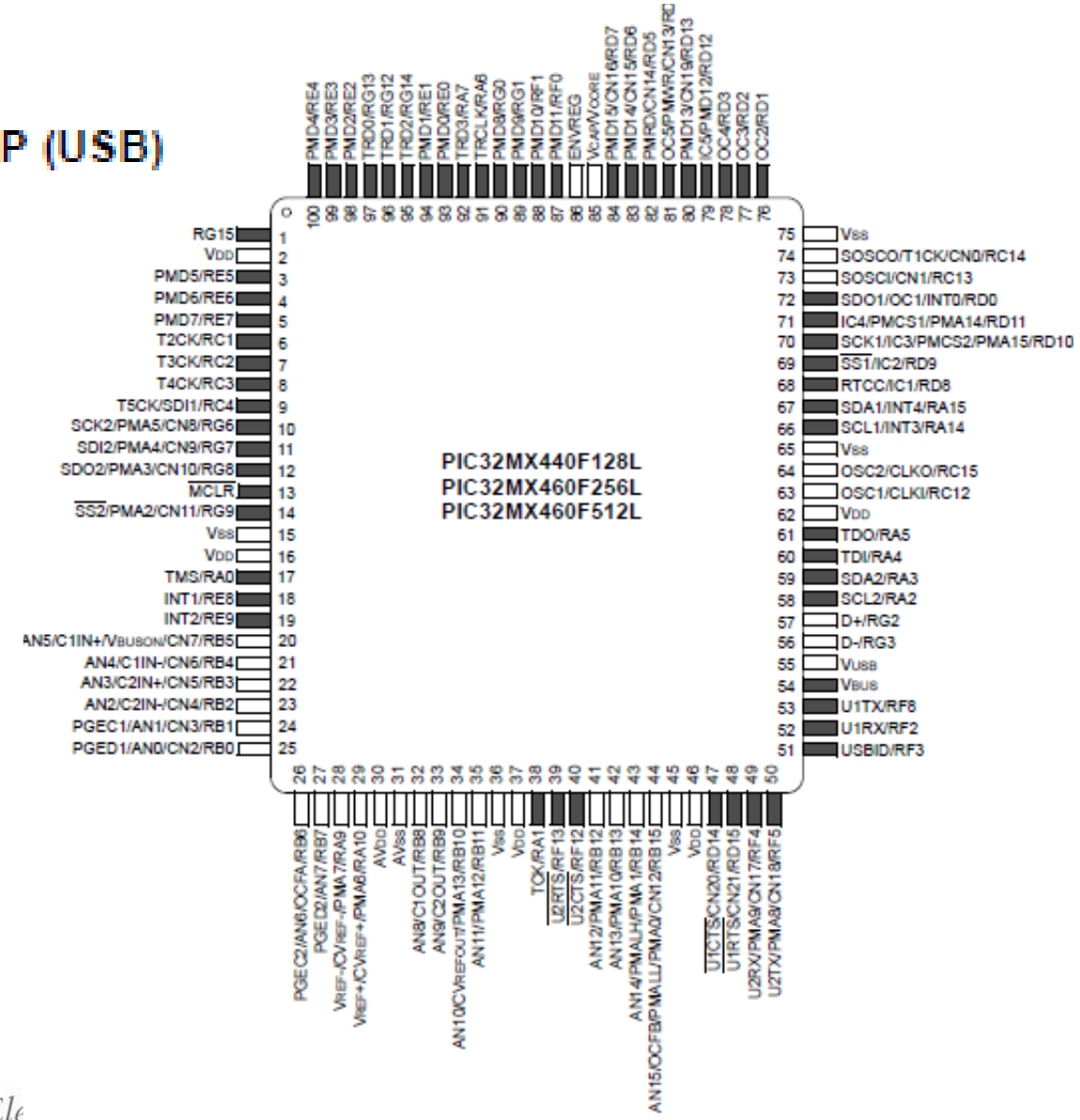
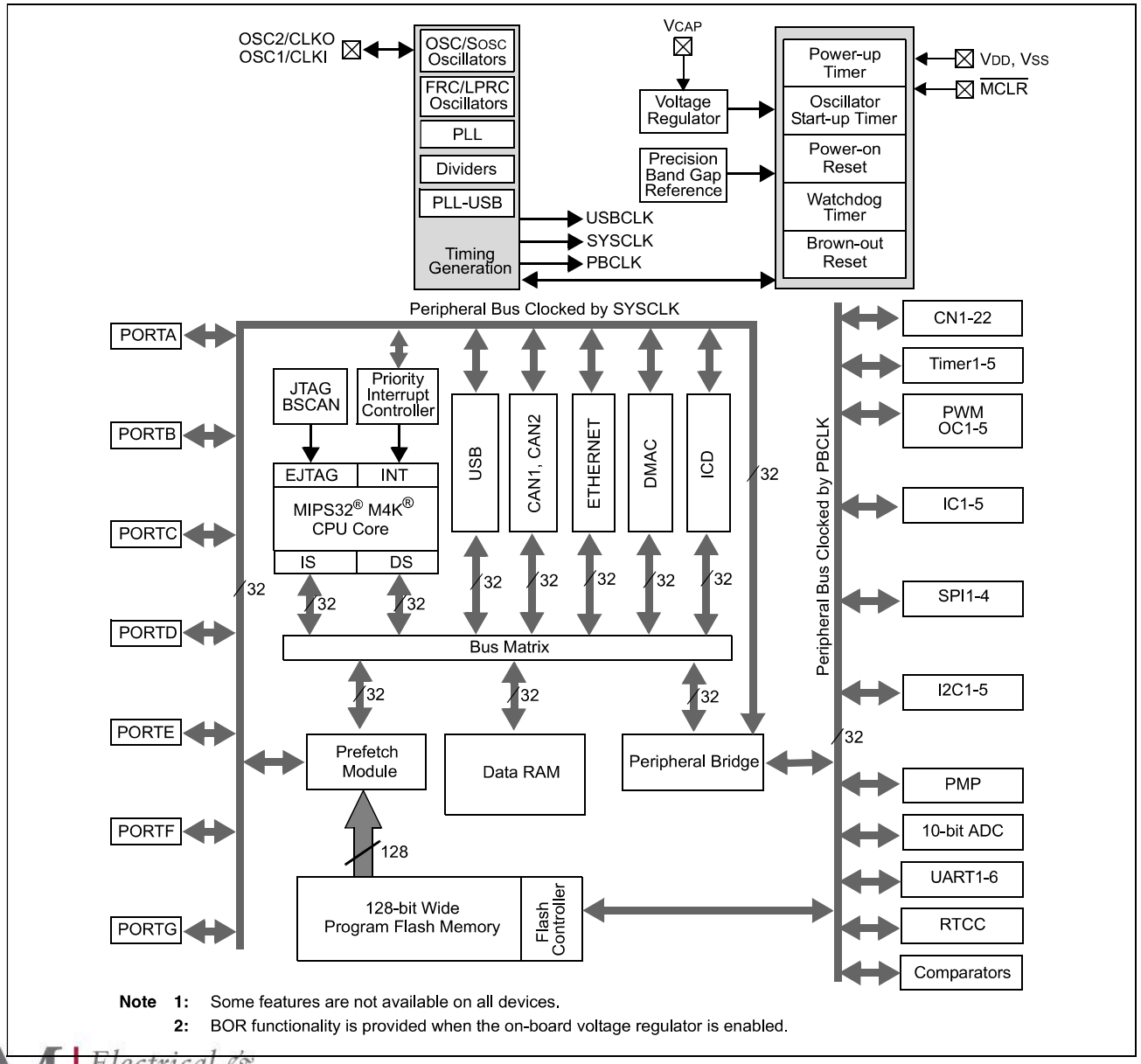
PIC32MX460F512L Package

100-Pin TQFP (USB)



PIC32 MX795 Architecture

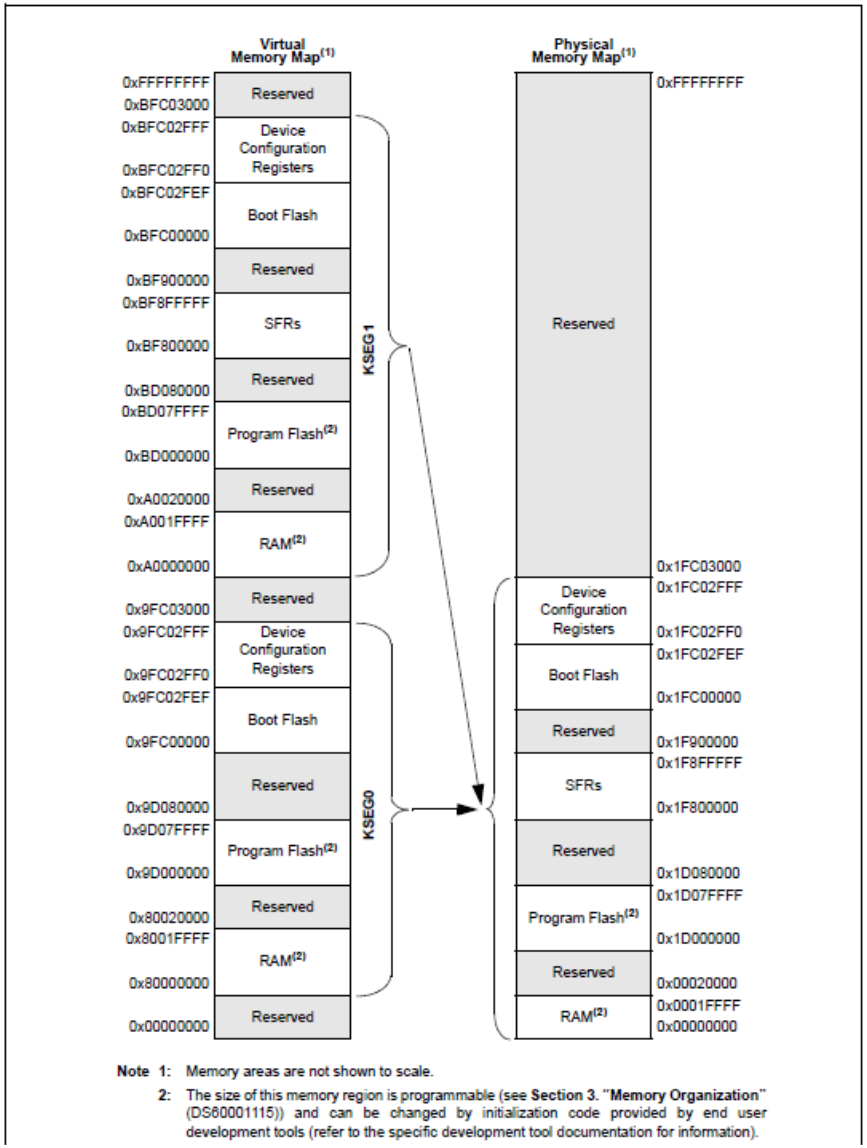
FIGURE 1-1: BLOCK DIAGRAM(1,2)



Note 1: Some features are not available on all devices.
2: BOR functionality is provided when the on-board voltage regulator is enabled.

PIC32MX795F512L Memory Map

FIGURE 4-6: MEMORY MAP ON RESET FOR PIC32MX695F512H, PIC32MX695F512L, PIC32MX795F512H AND PIC32MX795F512L DEVICES



Note 1: Memory areas are not shown to scale.

2: The size of this memory region is programmable (see **Section 3. "Memory Organization"** (DS60001115)) and can be changed by initialization code provided by end user development tools (refer to the specific development tool documentation for information).

Fixed Map Translation (FMT) is used to convert virtual addresses to physical addresses

128KB of RAM for Data Storage

512KB of Flash Memory for Program Storage

PIC Capabilities

- MIPS Core – Up to 80MHz Operation
- Power - +2.3 VDC to +3.6 VDC
- Power-on Reset – Puts microcontroller in known state
- Brown-out Detector – Allows for graceful degradation, or shut down
- Watch-dog Timer – Protects against software “hang” problems
- Clock – Multiple oscillator options
  - System Clock
  - Peripheral Bus Clock
  - USB Clock

PIC Capabilities

- Power Management – Low power modes.
- Analog Capabilities
  - 10 bit ADC and 16 analog inputs
  - Input comparator modules
- Timers
  - Five general purpose 16 bit timers
  - Five output-compare modules
  - Five input-compare modules

PIC Capabilities

- Communication Interfaces
  - USB Controller
  - Ethernet Media Access Controller
  - CAN bus controller
  - Five UART interfaces
  - Four SPI interfaces
  - Five I^2C interfaces
  - Parallel Master Port
- **Digital Input / Output Lines**
  - Seven ports with up to 16 input / output lines each
  - Input change detection
- **Direct Memory Access**
  - Multiple channels to automatically move large amounts of data between memory high speed devices or interfaces

PIC Capabilities

- Real-Time Clock and Calendar Module

PIC Interrupts

- The PIC Microcontroller can poll peripheral devices and perform operations on a regular basis.
- The PIC Microcontroller includes an Interrupt Controller that supports up to 96 different interrupt sources with 64 unique Interrupt Service Routines.